

K E S A T U A N K A J I D U M I M A L A Y S I A

G E O L O G I C A L S O C I E T Y O F M A L A Y S I A

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MALAYSIA

GEOLOGIC NOTES

Tektites from the stanniferous placers of eastern Pahang

K.F.G. Hosking and P.H. Stauffer
University of Malaya

Until recently there were no published records of tektites having been found in W. Malaysia since Scrivenor's time (see Scrivenor, 1931, p. 181-3). However, in September 1969, when the senior author's wife was at Sungei Lembing (Pahang) she was shown a heart-shaped pendant worn by the daughter of Mr A.M. Chan, the Underground Manager of P.C.C.L. mine, which had been fashioned from a tektite obtained from the stanniferous placers of a remote mine in the valley of the Sungei Reman some miles to the north of Sungei Lembing town. She was also assured that other residents of Sungei Lembing had had articles of jewellery in which were incorporated tektite material from the source noted above.

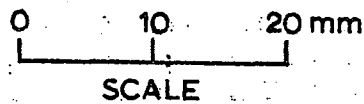
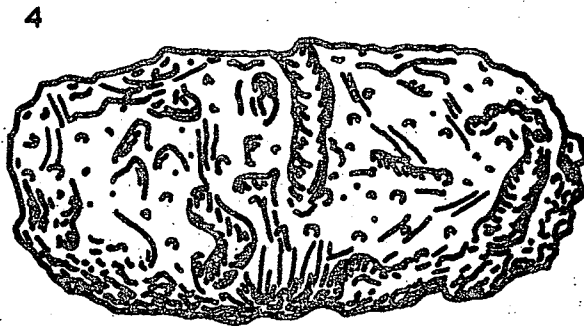
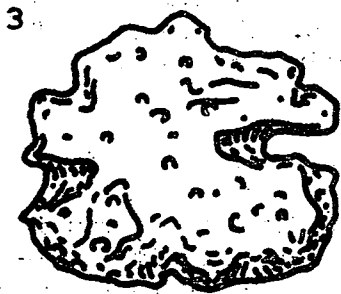
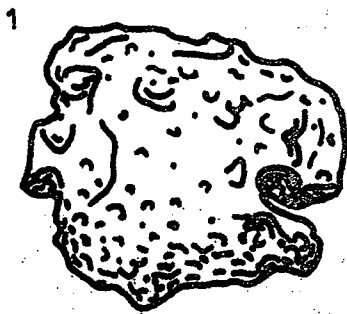
Subsequently Mr Chan provided two tektites from the same area, one in the natural state and the other cut en cabochon. Some of the characteristics of the former are here briefly recorded.

Sungei Reman tektite

The tektite in question weighs 9.08 g. and has a specific gravity of 2.446, which is well within the normal tektite range. It consists of black glass which when of the thickness of the specimen in question appears to be quite opaque.

The morphological features of the 'natural' specimen are indicated in the accompanying diagrams (figs 1-3). It is to be noted that the markedly rounded 'nose' of the tektite is devoid of flow lines, but its surface in common with the surface elsewhere is pock-marked with hemispherical depressions. Perhaps the most interesting surface features are the grooves which occur on the sides of the body, and run from the 'nose' to the back (see figs 1 and 3). There is no doubt that all but one of these grooves are natural phenomena; however, the most marked groove (best seen on right side of fig. 3) may be a natural one which has been deepened by the finder, an amateur lapidary, during an abortive attempt to cut a 'rough' cabochon from the specimen. Yet since the 'pock-marks' occur even on the bottom of the groove and in general the surface in it is not different from the surface outside it, most probably even this deep groove is entirely natural.

The markedly asymmetrical shape of this tektite, with one side virtually flat and the other (the 'nose') smoothly rounded (see fig. 2) is very interesting. The suggestion of aerodynamic shaping is strong, and in fact this tektite is closer to the classic Australite 'button' shape than any other Malaysian tektite yet seen by us. There are, however, no obvious flow lines, and no 'flange'.



Figures 1 - 3 : Sungai Reman tektite

Figures 4 - 5 : Gambang tektite

Gambang tektite

Following an appeal for information on tektite finds in Malaysia, Mr Tan Piau of Sharikat L & T, Kuala Lumpur, brought to our attention a tektite found in the Segamat Tin Mine, Gampang, Pahang, around 1967.

This tektite (figs 4 & 5) is in the shape of a blunt ellipsoid about 48 x 30 x 24 mm, with one end (left in the figures) appearing partly broken. It weighs 38.8 g. and has a specific gravity of 2.42, also well within the normal tektite range. The material appears to be shiny jet-black glass, though one small cracked area shows that in thin chips it is translucent and amber in colour.

The surface of the Gampang tektite shows a wealth of ornamentation including deep curving grooves, abundant small round pits, and fine flow lines ('schlieren'). The grooves are 2-3 mm wide and up to 4 mm deep, and in places form nearly circular loops (on the left and right ends in the figures). The round pits are shallow, $\frac{1}{2}$ -1 mm wide, and occur even on the sides and bottoms of the large grooves. The 'schlieren' are fine linear surface markings of low relief which appear, from the way they cut across grooves, to be the expression of internal structure. They are generally parallel to the long axis of the tektite, but include many swirling curves and tight folds.

According to Mr Tan, the tektite was found in the bottom of the tin mine during monitoring. The section in the mine starts on potholed limestone bedrock (with tin-bearing sands in some potholes) and includes about 10 ft. of sandy, tin-bearing alluvium overlain by about 10 ft. of barren clay, the whole capped by soil. It is not known from what part of this section the tektite was washed out.

Discussion

It would not be difficult to advance a number of reasons why, for many years, no W. Malaysian tektites were reported to have been found, but in part this is probably due to the fact that they are believed by some to possess magical and/or other special properties. Some hold that the tektite is the 'heart of tin' and that if a tin miner finds one on his property and disposes of it the tin ore will disappear. On the other hand some think that when the tektites appear in the mine the end of the tin ore is in sight. Could this mean that the tektites tend to occur near the base of the placers? Such a relationship would have an important bearing on the age of the placers. Certain Chinese refer to tektites as the droppings of tin. Some believe that a person wearing a tektite will not become frightened, whilst others are of the opinion that drinking a cup of tea in which a tektite has been stirred will allay nervousness.

The belief that magical and curative properties are possessed by certain 'strange looking' stones, minerals, and stone artifacts is, of course, encountered in many parts of the world. In the Southwest of England stone celts, believed by some in the past to be thunderbolts, were widely held to possess such properties. It is of interest that there also old miners and quarrymen may still be heard to refer to a curiously shaped lump of rock as 'the heart of the stone'.

Reference

Scrivenor, J.B., 1931. The Geology of Malaya. MacMillan, London. 217p.

A further occurrence of Malayaite in West Malaysia

K.F.G. Hosking and J.H. Leow
University of Malaya

Recently Mr Y.K. Shu, of the Geological Survey of Malaysia, knowing our interest in skarns, kindly gave one of us a specimen of such material from the now abandoned tin-field of Sungei Gow (Pahang, W. Malaysia).

Examination of thin and polished sections of the rock indicated that it consists of diopside, malayaite, calcite, cassiterite, pyrrhotite, together with minor chalcopyrite and quartz.

The first-formed constituents were diopside and malayaite: these developed more-or-less simultaneously and almost certainly in a carbonate matrix. Subsequently some of the diopside crystals were part-replaced by calcite whilst a number of the malayaite crystals were partly, or wholly, converted, and without loss of shape, to a cassiterite/calcite/minor quartz aggregate. A little of the malayaite which escaped this degradation is now dull and would appear to have been converted later to varlamoffite-- probably by supergene processes.

Cassiterite is also seen cementing diopside crystals, although this is a rare phenomenon.

Pyrrhotite and chalcopyrite occur in fracture zones and have clearly replaced some of the carbonate matrix. Included within the sulphides, and in part replaced by them, are malayaite crystals displaying to varying degrees the pre-sulphide type of alteration (to cassiterite, etc.) described above. Inclusions of diopside are also seen in the sulphides.

It would appear that the rock under review has been derived from a somewhat magnesian limestone which, as a result of heat and the addition of chemicals (particular tin in some unknown form) during the emplacement of the neighbouring Main Range granite, was converted to a malayaite/diopside/calcite skarn.

Subsequently the skarn was fractured and hydrothermal agents from the granite residuum effected the local replacement of diopside by calcite and the conversion of some of the malayaite to an aggregate of calcite, cassiterite and minor quartz. At about the same time these agents probably introduced some tin which was deposited as cassiterite at the expense of calcite.

Following a further phase of fracturing, sulphide-rich agents invaded the skarn and were responsible for the deposition of pyrrhotite and minor chalcopyrite, to some extent, possibly, in open fractures, but more particularly by replacement of the calcite of the matrix, and locally that of the altered malayaite.

Malayaite was first recorded by Alexander and Flinter (1965) from the Batang Padang district of Perak, W. Malaysia and subsequently it was noted in the skarn of Red-a-ven Mine, Southwest England by Dearman and el Sharkawi (1965). During the past year members of the Department of Geology, University of Malaya, have established that marked concentrations of malayaite occur in the tin-ore of Pinyok Mine, South Thailand (Hosking, 1969, p.11), and that a least a little appears in the skarn of the Melor Syndicate opencast tin mine, near Sungei Way, Selangor, and in another opencast mine to the north of Sungei Besi tin mine (Selangor).

Malayaite, an analogue of sphene, which fluoresces a characteristic greenish-yellow under short-wave ultraviolet light, should be searched for diligently in all the skarns of the South-east Asian stanniferous province as it contains c. 45 percent SnO_2 , and, were it shown that a considerable quantity of the species were available there is little doubt that mineral dressers would devise a means of recovering it and smelters a method of extracting the tin from it.

A more detailed account of the four recent finds of malayaite will be published elsewhere.

References

- Alexander, J.B. and Flinter, B.H. 1965. A note on varlamoffite and associated minerals from the Batang Padang district, Perak, Malaya, Malaysia. Min. Mag., 35, 622-627
- Dearman, W.R. and el Sharkawi, M.A.H. 1965. The relationship between iron-metasomatism and emanative centres on Dartmoor Proc. Ussher Soc. 1, 183-185
- Hosking, K.F.G. 1969. Aspects of the geology of the tin-fields of South-east Asia. Preprint of a paper presented at the 2nd Technical Conference on Tin, Bangkok, Thailand 1969 (41 pages).

LETTER TO THE EDITOR: THE STONG METAMORPHIC COMPLEX

"Dear Sir,

I refer to the article entitled "Some notes on the Stong Metamorphic Complex, Kelantan" by C.S. Hutchison, published in Newsletter Number 21 of November, 1969. Hutchison states that the purpose of his article is to record the presence of sillimanite and cordierite in a pelitic schist and diopside and phlogopite in the marble of the metamorphic complex which occupies the region of the Gunong Stong in Ulu Kelantan.

I would like to draw your attention to the fact that the basic information given in Hutchison's paper has already been made available by the Geological Survey in Professional Paper E63. 2-G (see pp. 13-17). For this Paper please consult Bulletin No. 2 of the Geological Society of Malaysia (see p. 146), which comprises a "Bibliography and Index of the Geology of West Malaysia and Singapore" by D.J. Gobbett. In this paper minerals like garnet (spessartite to almandine in composition), sillimanite, diopside, phlogopite, staurolite, and axinite were recorded. In addition exact localities of rocks containing the above and other metamorphic minerals like chloritoid, cordierite, and wollastonite are given in Geological Survey field records, copies of which are available in our Headquarters Library and the Kuala Lumpur office. I should like to bring to the attention of yourself and members of the Geological Society that our Field Records have always been placed on an open file system, the idea being to make unpublished Geological Survey information readily accessible to the public. This information is contained in records which are produced in limited numbers. In the open file system, reference and/or loan copies of the records are made available at the Geological Survey offices in Ipoh and Kuala Lumpur."

S.K. Chung
Director, Geological Survey,
Malaysia.

DISCUSSION MEETING ON FAULTING: IPOH, DECEMBER 19-21

On the weekend of December 19th to 21st the Geological Society of Malaysia held a discussion meeting centered on the topic of "Faulting in Malaysia" at the headquarters of the Geological Survey of Malaysia in Ipoh, Perak. The meeting was timed to coincide with the Geological Survey's annual Conference, so that all Survey geologists would be in Ipoh and able to attend. Special group transport was arranged for members travelling up from Kuala Lumpur. This was the first meeting of the Society - apart from

some field meetings - ever held outside the Kuala Lumpur area, and its success augurs well for the future of outstation meetings.

The geological part of the meeting consisted of papers and discussions in two sessions, Friday afternoon and Saturday morning, and field excursions in the Kinta Valley (Saturday afternoon) and in the Batang Padang hydro-electric scheme, near Cameron Highlands (Sunday).

The Society's President, Dr C.S. Hutchison, opened the meeting and served as Chairman. Eight papers (abstracts distributed with this Newsletter) on various aspects of the topic were read and discussed at the two indoor sessions. Three of these dealt with local fault patterns or phenomena: "Faulting in the Western Kuala Lumpur area" by K.W. Choy and E. B. Yeap (read by Mr Yeap); "Cassiterite-bearing mylonite with tectogenic glass" by N.S. Haile; and "The Timor fault system" by V.T. Pun (read by C.S. Hutchison). Four of the papers concerned fault patterns in rather larger areas: "Fault pattern in areas around and east of Kuala Lumpur" by Y.K. Shu; "Joint pattern and faulting in Kinta, West Malaysia" by D.J. Gobbett (read by P.H. Stauffer); "Faulting in South Kelantan" by P.C. Aw; and "Faulting in southeast Pahang and Northeast Johore" by T. Suntharalingam. Finally, one paper attempted some regional synthesis: "Large strike-slip faults in Malaysia" by H.D. Tjia (read by E.B. Yeap).

Discussion was lively, and centered mainly on the relative importance and age of the major fault trends revealed in West Malaysia, and on the existence and nature of several proposed major faults. One large point of agreement that emerged was that there are at least three major directions of wrench faulting in West Malaysia and southern Thailand: North-South, Northwest-Southeast (varying to almost East-West), and Northeast-Southwest. Compilations of lineations on aerial photographs and other lines of evidence verify this pattern of concentration. Some of the larger faults have been named in print: Burton's Bok Bak Fault (Jour. Geol., 73, 781, 1965), Shu's Bukit Tinggi Fault Zone (GSM Newsletter No. 17, 1969), and Stauffer's suggested Kuala Lumpur fault zone (GSM Newsletter No. 15, 1968) fall into the Northwest-Southeast trend, while Tjia's Lebir Fault Zone (GSM Newsletter No. 19, 1969) runs almost North-South. All of these appear to be left-lateral.

Some heated discussion was engaged in over the propriety of postulating large faults on small evidence. It was pointed out that some faults are known in the field, others are postulated by connecting isolated outcrops, while still others are merely interpreted from topographic lineaments or other indirect evidence. It was agreed that these different kinds of evidence should somehow be distinguished on compilation maps, so that proper weight could be given to the lines on the maps.

The curious concentration of attention on strike-slip faults, to the almost total exclusion of normal and reverse faults, is probably explained by the ease with which strike-slip faults can be discovered - as "lineaments"

on maps or aerial photographs. The only major thrust so far described from West Malaysia is the Kisap Thrust in the Langkawi Islands (B.N. Koopmans, Geol. Mag. 102, 501, 1965) yet it would be strange if this orogenic belt were otherwise devoid of thrusts.

The success of the meeting and discussions was in no small part due to the breadth of participation. Of the eight papers, three originated with the Geological Survey, three with the University of Malaya, and the other two came from the mining industry and from outside the country. The approximately fifty members who attended included three from Thailand (Mr W.F. Hooper, Dr Michael Ridd, and Mr Paul Truitt), three from Indonesia (Dr J.W. Chr. Doppert, Mr A.P. van Lennop, and Mr T.C. Zwartkruis), and one from India (Dr T. Narasimhan), not to mention geologists from all parts of East and West Malaysia.

The field excursion on Saturday afternoon included the following stops:

On the Southwest side of Gunung Papat, one of the limestone hills near Ipoh, residual hematite was seen being mined from the soil and broken up for use as jig ragging. This iron comes from metasomatic lodes in the limestone and here has been simply 'let down' as a residual deposit upon solution of the host rock. Later the party saw the lodes in place on the north side of the same hill.

A brief visit was also made here to a Buddhist temple in a cave in the hill, and to a charming enclosed doline behind the temple. Another almost enclosed valley in the limestone just to the south was looked at as well. Here prominent shear zones in the limestone illustrated the topic of discussion at the indoor sessions.

Second major stop was the great PWD quarry in biotite granite at Kuala Dipang on the northeast corner of the Bujang Melaka massif. The rock here is very resistant and difficult to quarry, and in fact the site was a huge natural cliff outcrop of granite - most unusual in this climate - before quarrying began.

Returning to Gunung Rapat, the party went around to the North side, where metasomatic hematite can be seen abundantly in the limestone, often in beautiful colloform growths. Rims of siderite border the hematite in places, but elsewhere it is directly against the original limestone.

Finally, in the failing light of evening, a brief visit was made to a limestone hill near Tambun (close by the Geological Survey headquarters), on the overhanging wall of which are a number of interesting paintings of animals, men, and geometric designs. The origin and age are unknown, but they are remarkably like some prehistoric cave paintings in Europe and Africa.

On Sunday morning, the field party drove to the National Electricity Board office on the Cameron Highlands road. From there we were kindly guided by NEB engineers in a tour of the Batang Padang Hydroelectric works, including tunnels, dams, and power stations. The project, much of it deep underground, is very impressive, and the unlined parts of the tunnels and underground rooms offer superb exposures of fresh granite, suitable for detailed structural and petrological studies.

In addition to the scheduled field trips, those members who rode up from Kuala Lumpur in the Society's transport also made a field stop at the Kuala Kubu Bharu PWD quarry on Friday morning. This is the site of Professor Haile's tectogenic glass, described in his paper to the meeting, and he was able to show us its occurrence in the field.

Two pleasant social occasions completed the success of the weekend. On Friday evening the Director of the Geological Survey, Mr S.K. Chung, hosted the University Staff delegates to a lavish feast at his home, complementing his official hospitality by a warm personal welcome. On Saturday evening many of the delegates enjoyed a good Chinese dinner sponsored by the Society in an Ipoh restaurant.

The Society is extremely grateful to all who helped make this meeting a success, and especially to the Director of the Geological Survey of Malaysia, whose generous hospitality and constant cooperation made the meeting possible.

PHS

FIELD MEETING: SUNGEI WAY AREA - SENG MINES

A field trip was held to the opencast tin mines (Seng Mines) at Sungei Way, 3 km SW of Kuala Lumpur. The field excursion was led by Professor N.S. Haile. The rock types in the area are granite, limestone and schist overlain by alluvium.

Quartz veins are strongly developed in the granite and nodular flint-like chalcedony occurs as veins in the granite, schist and limestone. The manner of occurrence of the chalcedony suggests that the chalcedony was formed as a result of late-stage mineralization. Strong sulphide mineralization is exhibited in the lodes in the form of pyrite and marcasite. These lodes are in part chloritized and parallel the quartz veins. Adjacent to one of the sulphide lodes is a mass of garnet formed in limestone intruded by the granite.

Between the granite bedrock and the overlying alluvium an iron pan is developed. This was formed by the precipitation of iron oxides by groundwater on the impermeable granite.

The basal part of the overlying unconsolidated sediments is composed of angular boulders and clay, representing the initial valley-fill. This is unconformably overlain by river deposits consisting of rounded gravels and sands with lenses of clay. The top 2 - 3 m is mostly of peaty mud which probably indicates that a swampy environment existed after the area had been filled in with alluvium.

In the alluvium the peaty and iron-rich horizons are much more consolidated than the rest due to the cementation of the alluvium by carbonaceous and iron oxide cements.

The alluvium probably correlates with the Old Alluvium in the Kinta Valley, except for the basal boulder clay which appears to be much older.

The members thanked Professor Haile for an interesting excursion and the group dispersed into a gathering thunderstorm.

SPS

RECENT GEOLOGICAL SURVEY PUBLICATIONS

The Geological Survey of Malaysia has published several new District Memoirs during the past few years. Members may not be aware that these are available to the public. The new Memoirs are:

- Memoir No. 8 (1968) - THE GEOLOGY AND MINERAL RESOURCES OF THE NEIGHBOURHOOD OF BENTONG, PAHANG, MALAYA, by J.B. Alexander, pp. (?), 35 text-figures, 12 half-tone blocks, 2 separate folding coloured geological maps and one sheet geological sections on a scale of 1:63,360. Price: M\$10.00
- Memoir No. 10 (1967) - THE GEOLOGY AND MINERAL RESOURCES OF NORTH KELANTAN AND NORTH TRENGGANU, WEST MALAYSIA, by S. MacDonald. pp.202, 29 text-figures, 22 half-tone blocks, one separate folding coloured geological map on a scale of 1:250,000
Price : M\$10.00
- Memoir No. 14 (1968) - GEOLOGY AND BAUXITE DEPOSITS OF THE PENCERANG AREA, SOUTHEAST JOHORE, by P.L.C. Grubb. pp.125, 24 text-figures 17 half-tone blocks, 53 statistical tables, one separate folding coloured geological map on a scale of 1:63,360. Price: M\$10.00

Other District Memoirs still in print and available are:

Memoir No. 4 - THE GEOLOGY AND MINERAL RESOURCES OF THE NEIGHBOURHOOD OF CHEGAR PERAH AND MERAPOH, PAHANG, MALAYA, by J.A. Richardson Kuala Lumpur, Caxton Press, 1950. pp.162, 20 text-figures, 12 half-tone illustrations, 2 separate folding coloured geological maps on a scale of 1:63,360. Price: M\$6.00

Memoir No. 5 - THE GEOLOGY AND MINERAL RESOURCES OF THE FRASER'S HILL AREA, SELANGOR, PERAK AND PAHANG, MALAYA, by F.W. Roe. Kuala Lumpur, Caxton Press, 1951, pp. 138, 10 text-figures, 15 half-tone illustrations, separate folding coloured geological map on a scale of 1:63,360. Price: M\$6.00

Memoir No. 6 - THE GEOLOGY AND MINERAL RESOURCES OF THE NEIGHBOURHOOD OF KUANTAN, PAHANG, MALAYA, by F.H. Fitch, Kuala Lumpur, Caxton Press, 1952. pp.144, 30 text-figures, 40 half-tone illustrations, 4 separate folding coloured geological maps on a scale of 1:63,360. Price: M\$6.00

Memoir No. 7 - THE GEOLOGY AND MINERAL RESOURCES OF THE NEIGHBOURHOOD OF KUALA SELANGOR AND RASA, SELANGOR, MALAYA, WITH AN ACCOUNT OF THE GEOLOGY OF THE BATU ARANG COALFIELD, by F.W. Roe. Kuala Lumpur, Caxton Press, 1953. pp.164, 9 text-figures, 12 half-tone illustrations, 2 separate folding coloured geological maps on a scale of 1:63,360. Price: M\$6.00

Memoir No. 9 - THE GEOLOGY AND MINERAL RESOURCES OF THE KINTA VALLEY, PERAK, MALAYA, by F.T. Ingham and E.F. Bradford 1960 pp. 347 22 text-figures, 18 half-tone blocks, 2 separate folding coloured geological maps and one sheet geological sections on a scale of 1:63,360. Price M\$10.00

Note: All publications are obtainable (post free within Malaysia only) from:

Director of Geological Survey
P O Box 1015
Ipoh, Perak
WEST MALAYSIA

PHS

NEWS OF THE SOCIETY

Plans for AGM

Members are reminded that the fourth Annual General Meeting of the Geological Society of Malaysia will be held in Kuala Lumpur on January

30th. Associated Discussion meetings and other events will span the period 29th to 31st January. Full schedules have been sent out to members already, together with requests for payment for meals organized by the Society. Members who have not yet paid are urged to do so soon.

An outline of the three days 's events is as follows:

29 January 1970

Thursday evening 8 p.m.: "The Other Occurrence of Malayaitite". Lecture Hall of the Geology Department. The speaker will be Dr W.R. Dearman of the Department of Geology, The University, Newcastle-upon Tyne, England and external examiner in applied geology, University of Malaya.

30 January 1970

Friday 9 a.m. - 12 noon: Discussion meeting (on Quaternary topics).

12noon - 1 p.m.: Presidential Address by Dr C.S. Hutchison.
"Meditations on Metamorphism".

1 p.m. - 2 p.m. : Lunch at the 2nd University College.

2.30 - 4.30 p.m.: Discussion meeting (miscellaneous papers)

5.00 p.m.: Fourth Annual General Meeting of the Geological Society of Malaysia (for members only)

8.00 p.m.: Annual dinner of the Geological Society. Hotel Malaysia.

31 January 1970

Saturday 9 a.m. - 1 p.m.: Discussion meeting (papers on mineralization).

PHS

New Members

The Hon. Secretary reports that the following persons have been admitted to membership to the Society (class of membership subject to verification by Council).

Mr M.C. Cater, Robertson Research Co. Ltd., Tyn-y-Coed, Llanrhos, Llandudno, Caerns.

- Mr P.D. Connard, 101 Boon Keng Road, Singapore 12
- Mr Y.S. Chiam, 16 Jalan Tangsi, Kuala Lumpur
- Mr K.L. Er, c/o Analytical Laboratories (M) Sdn. Bhd., 46-A
Jalan 52/4, Petaling Jaya
- Dr Richard Carnett, Conzinc Riotinto (M) Ltd., Bangunan Getah Asli,
150 Jalan Ampang, Kuala Lumpur
- Mr W.F. Hooper, P O Box 979, Bangkok, Thailand
- Mr P.N. Jamieson, McMahon & Partners (SEA) Pty. Ltd., 3rd Floor,
Chase Manhattan Bank Building, 9-11 Jalan Gereja,
Kuala Lumpur
- Mr K.G. Jefferies, 85/92 Anson Road, c/o Gafrney Cline and Assoc.
(S'pore) Ltd., Singapore 2
- Mr L.S. Lim, No. 11 Foch Avenue (2nd Floor) P O Box 863, Kuala Lumpur
- Mr D. Muerdter, c/o Peace Corps, Kuala Lumpur
- Dr M. Ridd, B.P. Petroleum Development Ltd., P O Box 2725, Bangkok
- Mr Rabinder Singh, c/o S.E.R.E.M. Sdn. Bhd., Room 805 AIA Building,
Ampang Road, Kuala Lumpur
- Mr C.H. Tan (S), 90 Rembau Street, Klang, Selangor
- Mr P. Truitt, P O Box 979, Bangkok, Thailand

The following have become Life Members of the Society:

- Mr K. Ganesan
- Dr B.K. Tan
- Dr P.H. Stauffer

PHS

CONFUCIUS ON THE QUALITIES OF JADE

A disciple asked Confucius saying, "Why, Sir, does the superior man value jade much more highly than serpentine? Is it because jade is

